

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. A method of disinfecting water comprising irradiating the water with ultraviolet light and introducing silver ions to the water.

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2. The method of disinfecting water of Claim 1 wherein the water is treated by initially irradiating the water with ultraviolet light followed by introducing silver ions to the water.

10 3. The method of disinfecting water of Claim 1 wherein the water is treated by introducing silver ions to the water and thereafter exposing the silver ion containing water to ultraviolet light.

15 4. The method of disinfecting water of Claim 2 wherein the ultraviolet light has a fluence of about  $1 \text{ mJ/cm}^2$  to about  $200 \text{ mJ/cm}^2$ .

5. The method of disinfecting water of Claim 3 wherein the ultraviolet light has a fluence of about  $1 \text{ mJ/cm}^2$  to about  $200 \text{ mJ/cm}^2$ .

20 6. The method of disinfecting water of Claim 2 wherein the ultraviolet light has a wavelength of about 200 nanometers to about 300 nanometers.

25 7. The method of disinfecting water of Claim 3 wherein the ultraviolet light has a wavelength of about 200 nanometers to about 300 nanometers.

8. The method of disinfecting water of Claim 2 wherein the ultraviolet light has a wavelength of about 254 nanometers.

30 9. The method of disinfecting water of Claim 3 wherein the ultraviolet light has a wavelength of about 254 nanometers.

10. The method of disinfecting water of Claim 2 wherein ultraviolet light is provided by a low pressure mercury lamp.
- 5 11. The method of disinfecting water of Claim 2 wherein ultraviolet light is provided by a medium pressure mercury lamp.
12. The method of disinfecting water of Claim 3 wherein ultraviolet light is provided by a low pressure mercury lamp.
- 10 13. The method of disinfecting water of Claim 3 wherein ultraviolet light is provided by a medium pressure mercury lamp.
14. The method of disinfecting water of Claim 2 wherein silver ions are present as  
15 silver nitrate.
15. The method of disinfecting water of Claim 3 wherein silver ions are present as silver nitrate.
- 20 16. The method of disinfecting water of Claim 2 wherein silver ions is are left to remain in the treated water.
17. The method of disinfecting water of Claim 3 wherein silver ions are left to remain in the treated water.
- 25 18. The method of disinfecting water of Claim 2 wherein silver ions are removed from the treated water.
19. The method of disinfecting water of Claim 3 wherein silver ions are removed from  
30 the treated water.

20. The method of disinfecting water of Claim 1 wherein the water being treated is drinking water.

5 21. The method of disinfecting water of Claim 3 wherein the water being treated is waste water.

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